

APPENDIX G

Preliminary Shared Solution Land-Use and Modeling Information

Shared Solution Alternative

Modeling Assumptions and Methodology

November 25, 2014



This is a summary of the assumptions and methodology to be used in modeling the Shared Solution Alternative. These have been collaboratively developed through multiple meetings with the Coalition and the WDC study team. The assumptions are outlined below for each of the stated principles of the Shared Solution Alternative.

1. Compact, Mixed Use Developments

- used floor area ratios (FAR) and residential densities from the Wasatch Choices for 2040 as a starting point
- based the locations and intensities of the various development types on city inputs from the land use workshop
- further subdivided the intensities generally such that from west to east the intensity increased
- used the following dimensions to estimate the area of potential mixed use developments:
 - 500' total width for boulevards / Main Street communities (250' on either side of the roadway centerline)
 - a square ¼ mile in length on each side for town center nodes (centered on the key intersection)
 - 750' radius at circulator stops in Layton between I-15 and Hill Field Road including all intersected parcels (assumed to be town centers)
 - visual identification of candidate parcels near station communities
- used ET+ to identify candidate parcels for development/redevelopment by 2040 within the above dimensions based on current land use and building age (along Main Street and Hill Field Road all intersecting parcels were assumed to be candidates, whereas in other areas the parcels were clipped to match the buffers)
- travel model TAZs were split to match the mixed use development / redevelopment areas
- approximately half of the buffer area (~1,800 acres) was identified as candidates for mixed use development / redevelopment
- to improve the jobs/housing balance in the study area some household growth was moved out of the study area and some employment growth was moved into the study area (initially 5,000 households and 7,500 jobs)
- it was assumed that 1/3 of the household growth and 80% of the employment growth would take place within the mixed use development / redevelopment area
- with the target study area land use growth in place, household and employment growth were distributed among the various boulevards, town centers, etc. based on the target FAR for each (average household size and household income were also estimated for each development type, which, on average, were each assumed to be less than the original overall study area average)

- household and employment growth were distributed among the TAZs based on the proportion of each development type within each TAZ (adjustments were made to account for existing land uses that would be developed)
- growth outside of the mixed use development / redevelopment zones, but within the study area was distributed through those zones based on the original 2009 to 2040 growth assumptions and an adjustment factor that placed more growth on the east side of the study area and less growth on the west side
- outside of the study area, land use adjustments were made to account for households that were moved out of the study area and jobs that were moved into the study area
 - new households were assumed to be added to Ogden and south Davis County so as to be closer to employment centers
 - employment growth was taken most heavily from the fringes of Weber and Davis Counties and less heavily from the more urbanized areas
- during the land use development process a goal for the total trip generation within the study area to be approximately equal to that of the other modeled alternatives in the EIS – based on this goal 3,500 households and jobs were moved into the study area (out of the 5,000 households that were originally moved out and in addition to the 7,500 that were originally moved in)
- Reid Ewing is reviewing the changes in auto ownership due to the adjusted land use – adjustments may be made based on his feedback

2. Boulevard Roadway Configurations

- let the model predict the speed based on area and facility type
- assumed capacity increase from innovative intersections based on the following:
 - SYNCHRO model capacity analysis comparing no-build and innovative intersections
 - started with 2040 volumes from examples in study area (Antelope, State, etc)
 - increase volumes until intersection failure to measure the increase in capacity
 - resulted in an average capacity increase of 17%
- apply the 17% capacity increase to the links that include the nodes
- apply 22% capacity increase to links at the intersections of State Street with Antelope, Hillfield, SR-193, 1800 N, 5600 South
- assumed an innovative intersection treatment at every node shown on the map
- assumed that the delay per left turning vehicle is 1 minute. Assumed 20% of volume at high volume intersections (22% capacity improved) is delayed 1 minute and 10% at low volume intersections (17% capacity improved) is delayed 1 minute.

3. Incentivized Transit

- propose a \$50 monthly UTA pass for Davis County riders
- propose a \$50 Frontrunner Pass for Weber Co. residents
- modify script in the model to account for this
- increase the walk buffer near BRT and rail stations to 0.5 miles
- model intermodal hubs as seamless transfers

4. Connected, Protected Bikeways

- baseline bike share is 0.3% for Davis County (Census data that refers to primary mode)
- use prediction from Shaunna Burbidge on future commuter trip bike share of 3%
- adjust distance factor or the utility coefficient to hit the target
- focus the percentage improvements in the redevelopment zones
- verify the number of home-based other trips with Shaunna

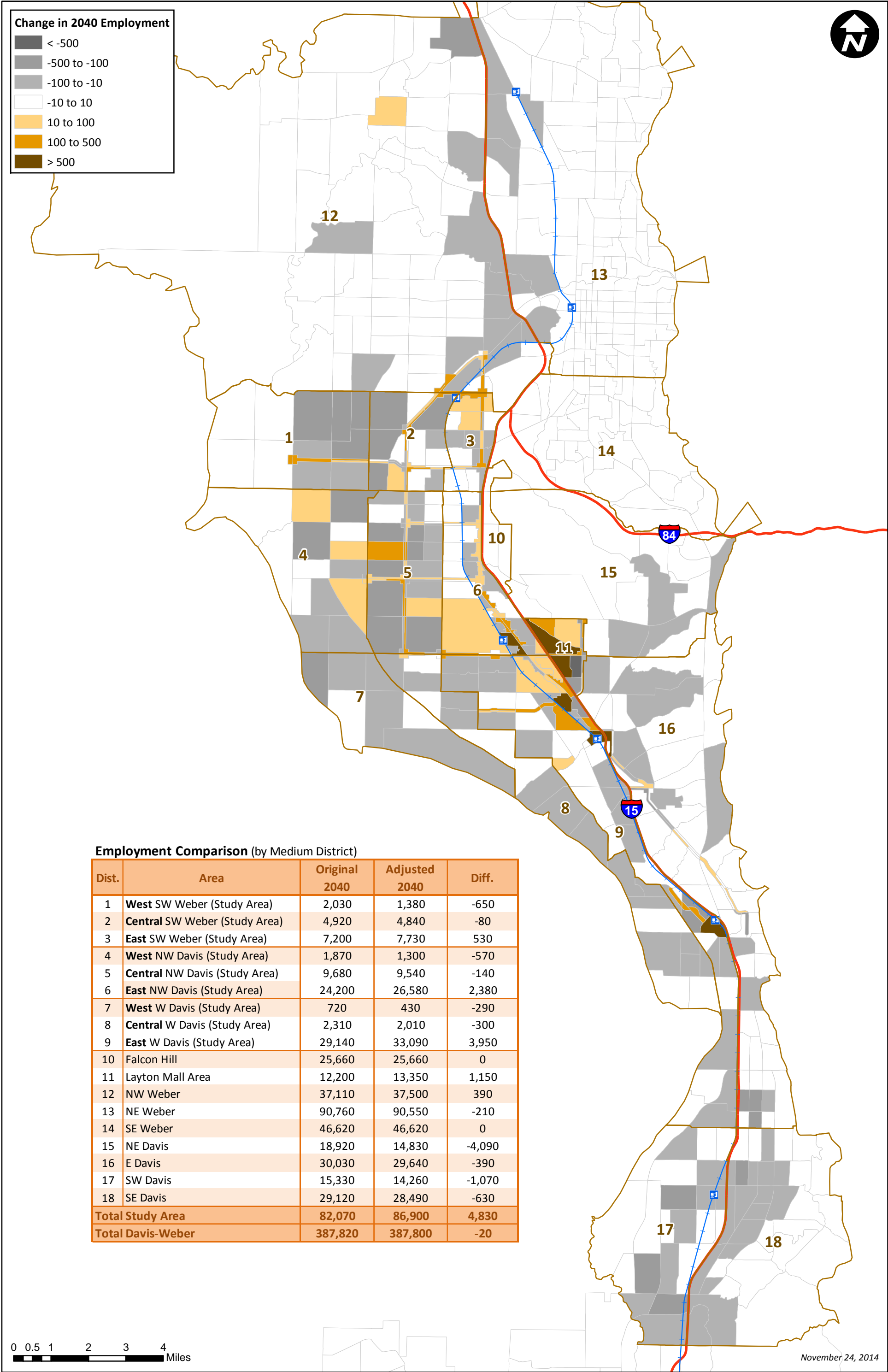
5. Preventative ramp-metering

- assume max. 8 minutes ramp wait time
- add penalty to on-ramp link
- using script that Mike sent and modified it for metering only in AM and PM periods
- assume ramp meters are placed from Bountiful to Riverdale Rd.

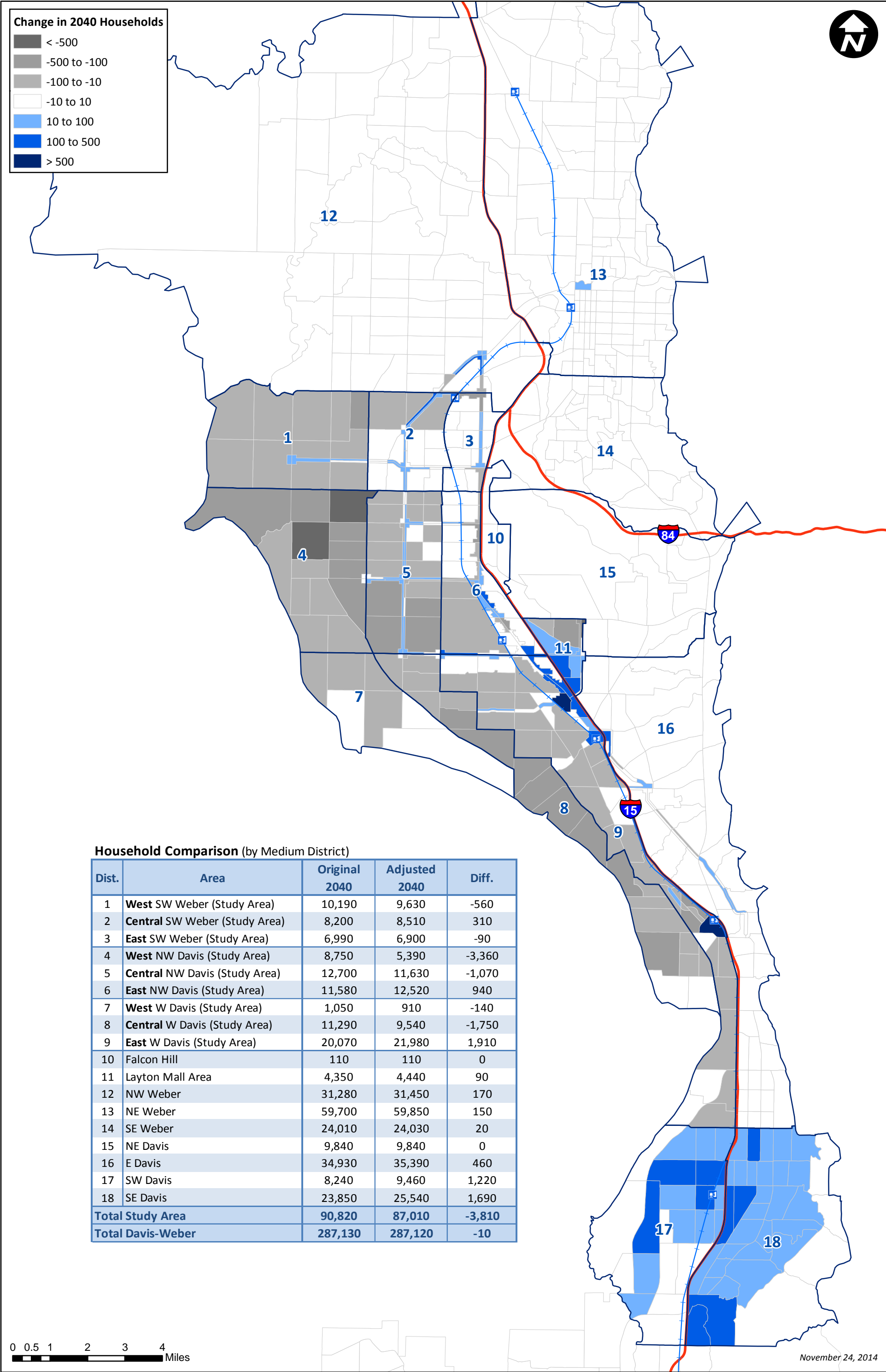
6. Strategically Placed I-15 Overpasses

- model directly in proposed locations

Change in 2040 Employment (Adjusted vs. Original)



Change in 2040 Households (Adjusted vs. Original)



WDC Study Area Development Types

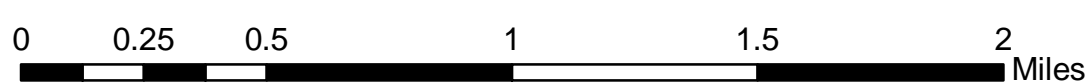
November 24, 2014

| Development Type Name | Acres of Development | Floor Area Ratios | | Residential vs. Commercial Ratio | | Retail vs. Office Ratio | | Resulting Households & Employment | | | Households & Employment per Net Acre | | | Households & Employment per Gross Acre | | | HH Size | HH Income |
|-----------------------|----------------------|-------------------|---------------------|----------------------------------|------------|-------------------------|--------|-----------------------------------|-------------------|-------------------|--------------------------------------|-------------------|-------------------|--|-------------------|-------------------|---------|-----------|
| | | Target | Range (per handout) | Residential | Commercial | Retail | Office | Household | Retail Employment | Office Employment | Household | Retail Employment | Office Employment | Household | Retail Employment | Office Employment | | |
| BC-1a | 152 | 0.23 | 0.35 to 0.75 | 71% | 29% | 60% | 40% | 636 | 408 | 505 | 6 | 15 | 29 | 4.2 | 2.7 | 3.3 | 2.80 | 51,121 |
| BC-1b | 214 | 0.30 | 0.35 to 0.75 | 69% | 31% | 58% | 42% | 1,135 | 774 | 1,040 | 8 | 20 | 37 | 5.3 | 3.6 | 4.9 | 2.71 | 49,893 |
| BC-1c | 134 | 0.36 | 0.35 to 0.75 | 66% | 34% | 56% | 44% | 816 | 616 | 898 | 9 | 24 | 45 | 6.1 | 4.6 | 6.7 | 2.65 | 48,828 |
| BC-2b | 81 | 0.45 | 0.75 to 1.00 | 64% | 36% | 56% | 44% | 635 | 492 | 719 | 12 | 30 | 56 | 7.8 | 6.1 | 8.9 | 2.50 | 47,208 |
| BC-2c | 194 | 0.53 | 0.75 to 1.00 | 61% | 39% | 54% | 46% | 1,708 | 1,451 | 2,296 | 14 | 36 | 66 | 8.8 | 7.5 | 11.8 | 2.37 | 45,746 |
| BC-3b | 77 | 0.54 | > 1.0 | 59% | 41% | 53% | 47% | 668 | 606 | 997 | 15 | 36 | 67 | 8.7 | 7.9 | 13.0 | 2.05 | 45,562 |
| TC-1a | 68 | 0.31 | 0.5 to 1.0 | 55% | 45% | 48% | 52% | 297 | 305 | 614 | 8 | 21 | 39 | 4.4 | 4.5 | 9.0 | 2.51 | 49,716 |
| TC-1b | 119 | 0.40 | 0.5 to 1.0 | 53% | 47% | 45% | 55% | 687 | 675 | 1,531 | 11 | 27 | 50 | 5.8 | 5.7 | 12.9 | 2.26 | 48,111 |
| TC-1c | 160 | 0.50 | 0.5 to 1.0 | 51% | 49% | 41% | 59% | 1,111 | 1,077 | 2,878 | 14 | 34 | 62 | 6.9 | 6.7 | 18.0 | 2.11 | 46,297 |
| TC-2a | 30 | 0.59 | 1.0 to 1.5 | 51% | 49% | 44% | 56% | 246 | 256 | 604 | 16 | 40 | 73 | 8.2 | 8.5 | 20.1 | 1.96 | 44,636 |
| TC-2b | 43 | 0.67 | 1.0 to 1.5 | 49% | 51% | 40% | 60% | 384 | 394 | 1,097 | 18 | 45 | 83 | 8.9 | 9.2 | 25.5 | 1.89 | 43,138 |
| TC-2c | 34 | 0.76 | 1.0 to 1.5 | 48% | 52% | 38% | 62% | 338 | 342 | 1,037 | 21 | 51 | 95 | 9.9 | 10.1 | 30.5 | 1.82 | 41,427 |
| TC-3b | 42 | 0.95 | > 1.5 | 47% | 53% | 44% | 56% | 511 | 624 | 1,474 | 26 | 64 | 118 | 12.2 | 14.8 | 35.1 | 1.76 | 37,729 |
| TC-3c | 135 | 1.04 | > 1.5 | 46% | 54% | 75% | 25% | 1,758 | 3,811 | 2,359 | 28 | 70 | 129 | 13.0 | 28.2 | 17.5 | 1.70 | 35,937 |
| SC-1b | 45 | 0.50 | 0.50 to 1.25 | 62% | 38% | 33% | 67% | 380 | 189 | 713 | 14 | 34 | 62 | 8.4 | 4.2 | 15.8 | 2.10 | 46,297 |
| SC-2c | 149 | 1.05 | 1.25 to 2.5 | 58% | 42% | 28% | 72% | 2,470 | 1,233 | 5,888 | 29 | 70 | 131 | 16.6 | 8.3 | 39.5 | 1.73 | 35,736 |
| SC-3b | 41 | 1.30 | > 2.50 | 57% | 43% | 26% | 74% | 827 | 399 | 2,111 | 35 | 87 | 162 | 20.2 | 9.7 | 51.5 | 1.57 | 30,610 |
| MS-1a | 62 | 0.32 | 0.5 to 1.0 | 50% | 50% | 48% | 52% | 240 | 319 | 642 | 8 | 21 | 40 | 3.9 | 5.1 | 10.4 | 2.54 | 49,539 |
| Total | 1,780 | 0.55 | | 56% | 44% | 48% | 52% | 14,846 | 13,969 | 27,404 | 15 | 37 | 68 | 8.3 | 7.8 | 15.4 | 2.11 | 42,692 |
| | | | | | | | | | 41,373 | | | | | | | | | |

Trip Generation Comparison

November 24, 2014

| Med. Dist. | Area | Original 2040 (Old TAZs) | | | Original 2040 (New TAZs) | | | Adjusted 2040 (New TAZs) | | | Difference (Adj. minus Orig.) | | |
|-------------------|-------------------------------|--------------------------|-----------|-----------|--------------------------|-----------|-----------|--------------------------|-----------|-----------|-------------------------------|---------|---------|
| | | Prod. | Attr. | Total | Prod. | Attr. | Total | Prod. | Attr. | Total | Prod. | Attr. | Total |
| 1 | West SW Weber (Study Area) | 108,930 | 53,430 | 162,360 | 110,290 | 53,360 | 163,650 | 103,800 | 49,330 | 153,130 | -5,130 | -4,100 | -9,230 |
| 2 | Central SW Weber (Study Area) | 94,810 | 66,300 | 161,110 | 96,100 | 66,220 | 162,320 | 99,960 | 70,080 | 170,040 | 5,150 | 3,780 | 8,930 |
| 3 | East SW Weber (Study Area) | 77,350 | 77,850 | 155,200 | 78,130 | 77,750 | 155,880 | 78,740 | 80,570 | 159,310 | 1,390 | 2,720 | 4,110 |
| 4 | West NW Davis (Study Area) | 92,270 | 45,200 | 137,470 | 93,100 | 45,210 | 138,310 | 56,030 | 28,240 | 84,270 | -36,240 | -16,960 | -53,200 |
| 5 | Central NW Davis (Study Area) | 152,300 | 122,480 | 274,780 | 153,380 | 122,490 | 275,870 | 144,970 | 120,630 | 265,600 | -7,330 | -1,850 | -9,180 |
| 6 | East NW Davis (Study Area) | 142,310 | 159,670 | 301,980 | 150,240 | 174,390 | 324,630 | 162,640 | 194,760 | 357,400 | 20,330 | 35,090 | 55,420 |
| 7 | West W Davis (Study Area) | 12,430 | 7,810 | 20,240 | 12,480 | 7,810 | 20,290 | 11,190 | 5,780 | 16,970 | -1,240 | -2,030 | -3,270 |
| 8 | Central W Davis (Study Area) | 121,380 | 62,710 | 184,090 | 121,830 | 62,780 | 184,610 | 103,970 | 54,330 | 158,300 | -17,410 | -8,380 | -25,790 |
| 9 | East W Davis (Study Area) | 284,070 | 303,410 | 587,480 | 277,500 | 288,980 | 566,480 | 294,780 | 324,500 | 619,280 | 10,710 | 21,090 | 31,800 |
| 10 | Falcon Hill | 49,930 | 142,500 | 192,430 | 49,830 | 142,340 | 192,170 | 49,820 | 142,340 | 192,160 | -110 | -160 | -270 |
| 11 | Layton Mall Area | 47,140 | 81,320 | 128,460 | 57,380 | 91,800 | 149,180 | 63,320 | 103,690 | 167,010 | 16,180 | 22,370 | 38,550 |
| 12 | NW Weber | 446,520 | 357,100 | 803,620 | 448,820 | 355,690 | 804,510 | 450,550 | 355,460 | 806,010 | 4,030 | -1,640 | 2,390 |
| 13 | NE Weber | 748,290 | 781,130 | 1,529,420 | 750,390 | 779,310 | 1,529,700 | 750,430 | 776,730 | 1,527,160 | 2,140 | -4,400 | -2,260 |
| 14 | SE Weber | 353,690 | 459,350 | 813,040 | 354,180 | 458,660 | 812,840 | 354,290 | 458,760 | 813,050 | 600 | -590 | 10 |
| 15 | NE Davis | 151,420 | 172,920 | 324,340 | 144,600 | 166,070 | 310,670 | 133,520 | 134,940 | 268,460 | -17,900 | -37,980 | -55,880 |
| 16 | E Davis | 413,480 | 341,530 | 755,010 | 412,720 | 337,580 | 750,300 | 413,640 | 332,920 | 746,560 | 160 | -8,610 | -8,450 |
| 17 | SW Davis | 114,010 | 109,360 | 223,370 | 114,470 | 109,490 | 223,960 | 141,270 | 103,840 | 245,110 | 27,260 | -5,520 | 21,740 |
| 18 | SE Davis | 279,220 | 293,360 | 572,580 | 280,410 | 293,760 | 574,170 | 291,650 | 296,830 | 588,480 | 12,430 | 3,470 | 15,900 |
| Study Area Total | | 1,085,850 | 898,860 | 1,984,710 | 1,093,050 | 898,990 | 1,992,040 | 1,056,080 | 928,220 | 1,984,300 | -29,770 | 29,360 | -410 |
| Davis-Weber Total | | 3,689,550 | 3,637,430 | 7,326,980 | 3,705,850 | 3,633,690 | 7,339,540 | 3,704,570 | 3,633,730 | 7,338,300 | 15,020 | -3,700 | 11,320 |



October 28, 2014

November 26, 2014

To: Mr. Ted Knowlton, Deputy Director Wasatch Front Regional Council

From: Roger Borgenicht for the Shared Solution Coalition

RE: Request for approval to use modified land use scenario and model refinements to evaluate the Shared Solution Alternative

For the last six months, UDOT and the Shared Solution Coalition ("Coalition") have been collaboratively developing the Shared Solution Alternative ("Alternative") as part of the West Davis Corridor (WDC) study. This alternative is fundamentally different from all previously studied WDC alternatives because it proposes both transportation investments and a modified land use vision to accommodate future travel demand in West Davis. To quote the Shared Solution Elements Map, *"The Shared Solution Alternative to the West Davis Freeway grows out of the Wasatch Choice for 2040. This Alternative recognizes the growth that is coming to our region, and envisions a future that meets our growing need without destroying our quality of life. We understand that transportation investments over the coming decades will affect our travel needs as well as how our cities and towns grow and change. This Alternative therefore proposes transportation investments that bring job opportunities to Davis and Weber Counties and create better balance between automobile, transit, walk and bike trips."*

Investment in the Alternative's transportation projects will necessarily produce land uses changes over time. We have therefore modified the land use projections for the West Davis Study Area in collaboration with West Davis cities in a Shared Solution Alternative Workshop on September 4, 2014.

In addition, because the principles and projects of the Alternative are more than simple roadway links, further modification of the travel model is necessary to model the impacts of the investments. Boulevard roadway design, innovative intersections, incentivized transit and an enhanced bike network are principles of the Alternative whose impact is not easily captured by the regional transportation model (see Shared Solution Elements Map for a detailed description of all six principles.) UDOT and the Shared Solution Coalition, including technical advisors from Avenues Consulting, HDR, Horrocks and Metroanalytics, developed modelling assumptions and methodologies in order to effectively evaluate the travel outcomes from the Alternative's investments.

We have provided a number of documents that describe the proposed land use and model refinements, including modelling assumptions and methodologies, and the modified socioeconomic data for the travel demand model.

As per the Memorandum of Agreement between UDOT and the Coalition, the Wasatch Front Regional Council must approve the alternative land use and socioeconomic data for trial modelling of the Alternative. We hope you and your staff will review the attached documents and recommend changes if necessary. If you approve without change, we ask that you draft a letter to UDOT approving the use of the modified land use scenario and model refinements to evaluate the Shared Solution Alternative.

Sincerely,



Roger Borgenicht
Co-Chair Utahns for Better Transportation
for Shared Solution Coalition
(801) 355-7085

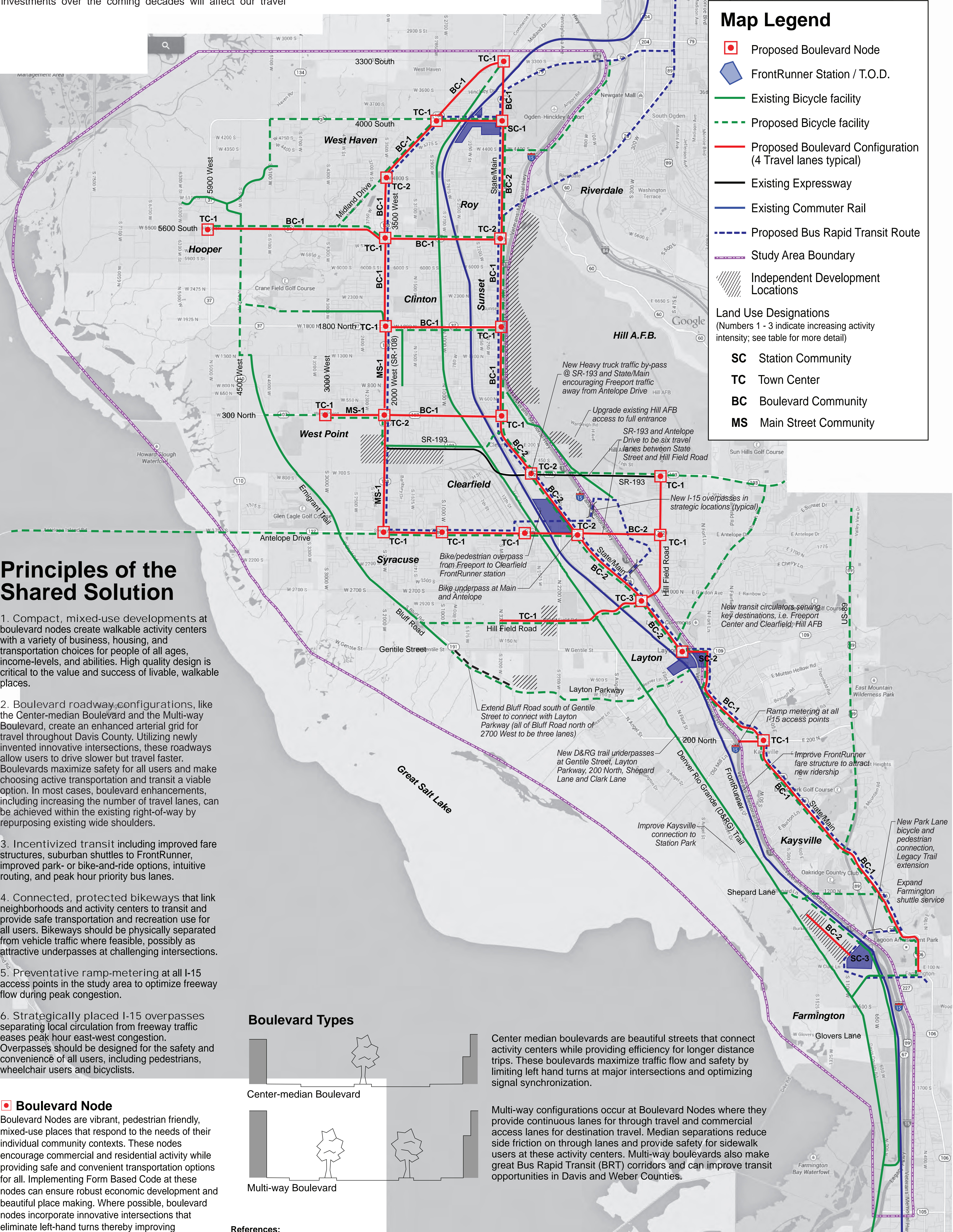
The Shared Solution Alternative

A Proposal for Livability and Mobility in West Davis and Weber Counties

The Shared Solution Alternative to the West Davis Freeway grows out of the Wasatch Choice for 2040, “a vision for building the future we want.” This Alternative recognizes the growth that is coming to our region, and envisions a future that meets our growing need without destroying our quality of life.

The Shared Solution propose a transportation system and land use vision that provide more choices for living, working, and getting around. We understand that transportation investments over the coming decades will affect our travel

needs as well as how our cities and towns grow and change. This Alternative therefore proposes transportation investments that bring job opportunities to Davis and Weber Counties and create better balance between auto, transit, walk and bike trips. Smart design and sequencing of these transportation investments can reduce the rate of growth of vehicle miles traveled, improve air quality, preserve the natural landscape and enhance our quality of life.



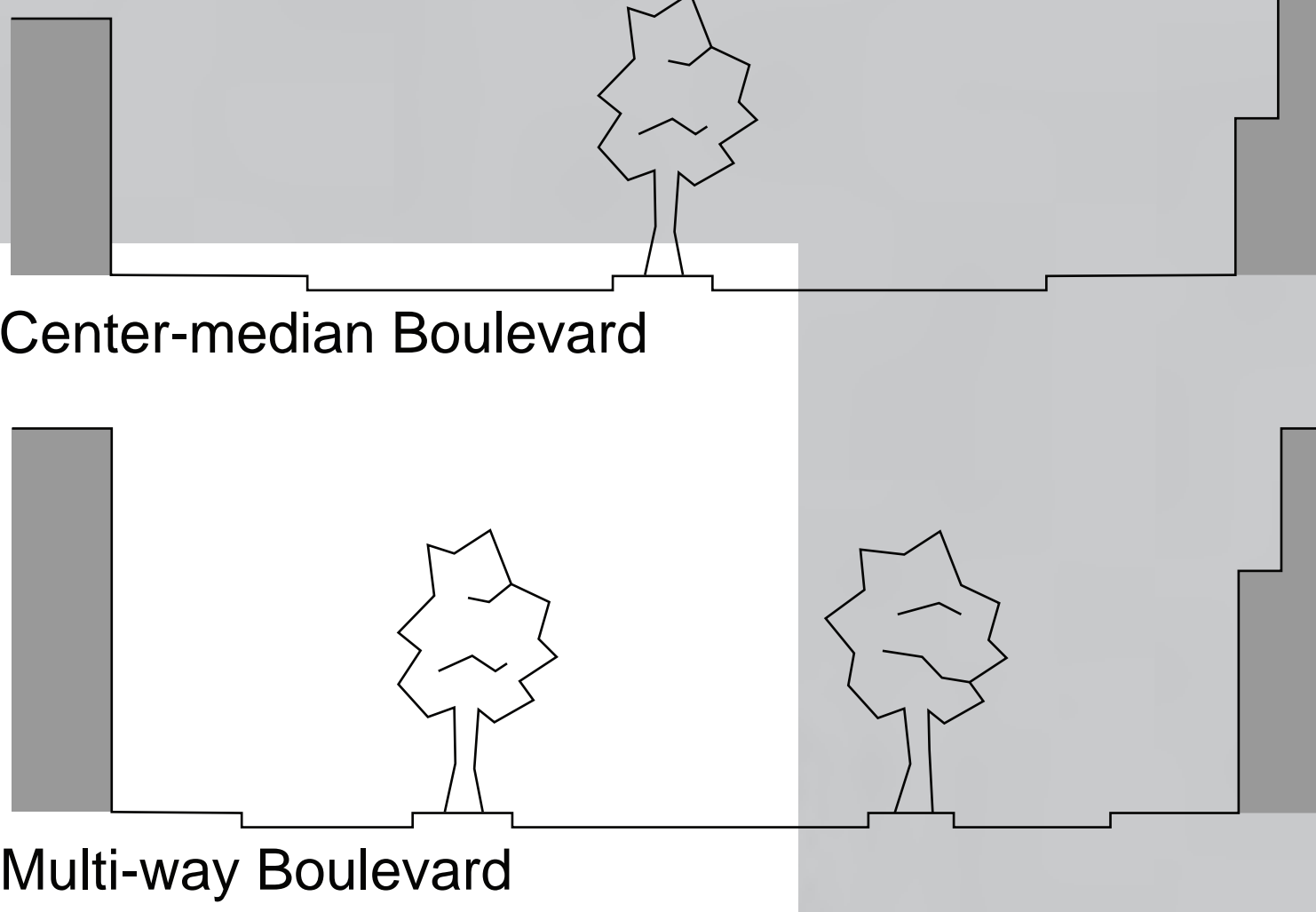
Principles of the Shared Solution

1. Compact, mixed-use developments at boulevard nodes create walkable activity centers with a variety of business, housing, and transportation choices for people of all ages, income-levels, and abilities. High quality design is critical to the value and success of livable, walkable places.
2. Boulevard roadway configurations, like the Center-median Boulevard and the Multi-way Boulevard, create an enhanced arterial grid for travel throughout Davis County. Utilizing newly invented innovative intersections, these roadways allow users to drive slower but travel faster. Boulevards maximize safety for all users and make choosing active transportation and transit a viable option. In most cases, boulevard enhancements, including increasing the number of travel lanes, can be achieved within the existing right-of-way by repurposing existing wide shoulders.
3. Incentivized transit including improved fare structures, suburban shuttles to FrontRunner, improved park- or bike-and-ride options, intuitive routing, and peak hour priority bus lanes.
4. Connected, protected bikeways that link neighborhoods and activity centers to transit and provide safe transportation and recreation use for all users. Bikeways should be physically separated from vehicle traffic where feasible, possibly as attractive underpasses at challenging intersections.
5. Preventative ramp-metering at all I-15 access points in the study area to optimize freeway flow during peak congestion.
6. Strategically placed I-15 overpasses separating local circulation from freeway traffic eases peak hour east-west congestion. Overpasses should be designed for the safety and convenience of all users, including pedestrians, wheelchair users and bicyclists.

■ Boulevard Node

Boulevard Nodes are vibrant, pedestrian friendly, mixed-use places that respond to the needs of their individual community contexts. These nodes encourage commercial and residential activity while providing safe and convenient transportation options for all. Implementing Form Based Code at these nodes can ensure robust economic development and beautiful place making. Where possible, boulevard nodes incorporate innovative intersections that eliminate left-hand turns thereby improving intersection efficiency. Where possible, Boulevard roadways at the Nodes will become Multi-way Boulevards with separated commercial access lanes.

Boulevard Types



Center median boulevards are beautiful streets that connect activity centers while providing efficiency for longer distance trips. These boulevards maximize traffic flow and safety by limiting left hand turns at major intersections and optimizing signal synchronization.

Multi-way configurations occur at Boulevard Nodes where they provide continuous lanes for through travel and commercial access lanes for destination travel. Median separations reduce side friction on through lanes and provide safety for sidewalk users at these activity centers. Multi-way boulevards also make great Bus Rapid Transit (BRT) corridors and can improve transit opportunities in Davis and Weber Counties.

References:
Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
Institute of Transportation Engineers Guide, 2010
Wasatch Choice for 2040

Prepared by Utahns for Better Transportation and the Shared Solution Coalition
Contact: (801) 355-7085 / utahnsforbettertransportation@gmail.com
*Map for developed for transportation performance analysis and is subject to change

November 2014

APPENDIX H

Workshop 6 – Preliminary Shared Solution Alternative Modeling Results



WEST DAVIS
CORRIDOR

Meeting Agenda

West Davis Corridor EIS

UDOT Project No. SP-0067(14)0

Meeting Name: WDC Shared Solution Screening Results Workshop

Meeting Date: Thursday, December 18, 2014

Meeting Time: 2:00 – 5:00 PM

Location: West Point City Hall (3200 West 300 North, West Point City)

Agenda:

1. **Welcome and Introductions** – Dan Adams (5 minutes)
2. **Purpose of the Meeting** – Randy Jefferies (15 minutes)
 - Review Preliminary Screening Results
3. **Land Use Assumptions & Approval Process** (30 minutes)
 - Review Land Use Development Process – Ivan Hooper
 - Q & A – City/County Feedback
 - Approval process - What information do the cities need? – Randy Jefferies
4. **Transit Assumptions & Approval Process** (15 minutes)
 - Review Transit Scope and Assumptions – Mike Brown
 - i. UTA discussion on subsidized fares
 - Q & A – City/County Feedback
 - Approval process - What information does UTA need? – Randy Jefferies
5. **Trails Scope and Assumptions** – Roger Borgenicht (10 minutes)
 - Q & A
6. **Break** – 10 Minutes
7. **Breakout Tables – Innovative Intersections** – Randy Jefferies (45 minutes)
 - Description of intersection types
 - Work at tables
8. **Next Steps & Schedule** – Randy Jefferies, UDOT (10 minutes)



West Davis Corridor EIS
Shared Solution Alternative Workshop #6
December 18, 2014

Please sign in **X**

| NAME | ORGANIZATION | ATTENDED |
|----------------------|-------------------------------|----------|
| Adam Lenhard | Clearfield | |
| Alex R. Jensen | Layton | |
| Andy Neff | The Langdon Group | |
| Andy Thompson | Kaysville | |
| Ann Floor | UBET | X |
| Ari Bruening | Envision Utah | |
| Barbara Keyt | UTA | |
| Barry Burton | Davis County | |
| Ben Wuthrich | WFRC | |
| Betsy Herrmann | USFWS | |
| Beverley Macfarlane | Sunset | |
| Bill Wright | Layton | |
| Bob Stevenson | Layton, Mayor | |
| Boyd Davis | West Point | X |
| Brandon Weston | UDOT | |
| Brian Moench | UT Phys. for Healthy Environ. | |
| Brianne Olsen | The Langdon Group | |
| Brody Bovero | Syracuse | X |
| Cameron Cova | Breathe Utah | |
| Carl Ingwell | Clean Air Now | |
| Charles Allen | Inter Plan | |
| Chris Lizotte | UDOT | |
| Chris Montague | TNC | X |
| Christopher G. Davis | Roy | |
| Curt McCuistion | Syracuse | |
| Dan Adams | The Langdon Group | |
| Dave Millheim | Farmington | X |
| David Peterson | Farmington | X |
| Davie Thompson | Avenue Consultants | |



**West Davis Corridor EIS
Shared Solution Alternative Workshop #6
December 18, 2014**

Please sign in X

| NAME | ORGANIZATION | ATTENDED |
|----------------------|-------------------------------|-----------------|
| Adam Lenhard | Clearfield | |
| Alex R. Jensen | Layton | |
| Andy Neff | The Langdon Group | |
| Andy Thompson | Kaysville | |
| Ann Floor | UBET | |
| Ari Bruening | Envision Utah | |
| Barbara Keyt | UTA | |
| Barry Burton | Davis County | |
| Ben Wuthrich | WFRC | |
| Betsy Herrmann | USFWS | |
| Beverley Macfarlane | Sunset | |
| Bill Wright | Layton | |
| Bob Stevenson | Layton, Mayor | |
| Boyd Davis | West Point | |
| Brandon Weston | UDOT | |
| Brian Moench | UT Phys. for Healthy Environ. | |
| Brianne Olsen | The Langdon Group | |
| Brody Bovero | Syracuse | |
| Cameron Cova | Breathe Utah | |
| Carl Ingwell | Clean Air Now | |
| Charles Allen | Inter Plan | |
| Chris Lizotte | UDOT | |
| Chris Montague | TNC | |
| Christopher G. Davis | Roy | |
| Curt McCuistion | Syracuse | |
| Dan Adams | The Langdon Group | |
| Dave Millheim | Farmington | |
| David Peterson | Farmington | |
| Davie Thompson | Avenue Consultants | |



West Davis Corridor EIS
Shared Solution Alternative Workshop #6
December 18, 2014

Please sign in X

| NAME | ORGANIZATION | ATTENDED |
|----------------------|-------------------------------|----------|
| Adam Lenhard | Clearfield | ✓ |
| Alex R. Jensen | Layton | |
| Andy Neff | The Langdon Group | |
| Andy Thompson | Kaysville | ✓ |
| Ann Floor | UBET | |
| Ari Bruening | Envision Utah | |
| Barbara Keyt | UTA | |
| Barry Burton | Davis County | ✓ |
| Ben Wuthrich | WFRC | ✓ |
| Betsy Herrmann | USFWS | |
| Beverley Macfarlane | Sunset | |
| Bill Wright | Layton | |
| Bob Stevenson | Layton, Mayor | |
| Boyd Davis | West Point | |
| Brandon Weston | UDOT | |
| Brian Moench | UT Phys. for Healthy Environ. | |
| Brianne Olsen | The Langdon Group | |
| Brody Bovero | Syracuse | |
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| | | |
|------------------|----------------------------|-----|
| Korry Green | Hooper | |
| Kris Peterson | UDOT | |
| Kyle Laws | West Point | KWL |
| Leigh Gibson | Intrepid | |
| Leona Dalley | UDOT | |
| Leslie Duersch | UBET | |
| Linda Youngbell | Sunset | |
| Lynn de Freitas | FRIENDS of Great Salt Lake | |
| Lynn Vinzant | Clinton | |
| Madison Sehlke | The Langdon Group | |
| Mark Shepherd | Clearfield | |
| Matt Sibul | UTA | |
| Michael Brown | Technical Advisor | MB |
| Mike Gailey | Syracuse | |
| Mike McBride | Glen Eagle Golf Course | |
| Mike Seely | Horrocks | |
| Mike Weland | URMCC | |
| Mitch Adams | Clinton | |
| Ned Hacker | WFRC | |
| Noah Steele | Syracuse | |
| Norm Marshall | Technical Advisor | |
| Pam Krammer | DWR | |
| Paul Beaudet | Western Wildlife Conserv. | |
| Paul Ziman | FHWA | |
| Peter Matson | Layton City | |
| Phil Strobel | EPA | |
| Randy Jefferies | UDOT | |
| Reid Ewing | Technical Advisor | |
| Renae Widdison | UBET | |
| Rex Harris | UDOT | |
| Richard Mingo | URMCC | |
| Rob Dubuc | Western Resource Advocates | |
| Robert Grow | Envision Utah | |
| Robert Whiteley | Syracuse | |
| Roger Borgenicht | UBET | |
| Roger Borgenicht | UBET | |
| Ron Mortimer | Horrocks | |
| Russ Robertson | FHWA | |
| Scott Festin | WFRC | |
| Scott Hess | Clearfield, Planner | |

| | | |
|------------------|----------------------------|------------|
| Korry Green | Hooper | |
| Kris Peterson | UDOT | <i>HP</i> |
| Kyle Laws | West Point | |
| Leigh Gibson | Intrepid | |
| Leona Dalley | UDOT | |
| Leslie Duersch | UBET | |
| Linda Youngbell | Sunset | |
| Lynn de Freitas | FRIENDS of Great Salt Lake | <i>hdf</i> |
| Lynn Vinzant | Clinton | |
| Madison Sehke | The Langdon Group | |
| Mark Shepherd | Clearfield | |
| Matt Sibul | <i>See KATHY DOANE</i> | |
| Michael Brown | Technical Advisor | |
| Mike Gailey | Syracuse | |
| Mike McBride | Glen Eagle Golf Course | |
| Mike Seely | Horrocks | |
| Mike Weland | URMCC | |
| Mitch Adams | Clinton | |
| Ned Hacker | WFRC | <i>NEH</i> |
| Noah Steele | Syracuse | |
| Norm Marshall | Technical Advisor | |
| Pam Krammer | DWR | <i>OK</i> |
| Paul Beaudet | Western Wildlife Conserv. | |
| Paul Ziman | FHWA | |
| Peter Matson | Layton City | |
| Phil Strobel | EPA | |
| Randy Jefferies | UDOT | |
| Reid Ewing | Technical Advisor | |
| Renae Widdison | UBET | |
| Rex Harris | UDOT | |
| Richard Mingo | URMCC | |
| Rob Dubuc | Western Resource Advocates | <i>cm</i> |
| Robert Grow | Envision Utah | |
| Robert Whiteley | Syracuse | |
| Roger Borgenicht | UBET | |
| Roger Borgenicht | UBET | |
| Ron Mortimer | Horrocks | |
| Russ Robertson | FHWA | |
| Scott Festin | WFRC | |
| Scott Hess | Clearfield, Planner | <i>X</i> |

— correct spelling please!

[illegible]

[illegible]

[illegible]

| | | |
|------------------|------------------------------|--------------|
| Deb Sigman | Breathe Utah | |
| Dennis Cluff | Clintonr | |
| DJ Williams | Utah Waterfowl Association | X |
| Don Lever | UBET | |
| Eric Anderson | Farmington | |
| Eric Rasband | UDOT | |
| Erik Craythorne | West Point | |
| Glenn Bronson | Utah Airboat Association | |
| GJ LaBonty | UTA | |
| Greg Scott | WFRC | |
| Heather Dove | Great Salt Lake Audubon | |
| Heather Dove | GSL Audubon | |
| Ivan Hooper | Avenue Consultants | |
| J.J. Allen | Clearfield | |
| Jan Zogmaister | Weber County | |
| Jared Hall | Roy | |
| Jared Hall | Roy | |
| Jason Steed | Citizens for Better Syracuse | |
| Jayson Clough | Horrocks | |
| Jeff Bilsky | Utah Birders | |
| Jeff Harris | UDOT | |
| Jen Fowler | The Langdon Group | |
| Jenny Schow | Syracuse | ✓ |
| Jim Talbot | Farmington | |
| John Buttenob | HDR | |
| John Gleason | UDOT | |
| John Larsen | WFRC | |
| John Petroff | Davis County | X |
| John Thacker | Kaysville | X |
| John Urbanic | USACE | |
| Josh King | The Langdon Group | |
| Josh Noble | Utah Mud Motors | |
| Judy | Hooper | |
| Julia McCarthy | EPA | |
| Karen Hamilton | EPA | |
| Kathy Van Dame | Wasatch Clean Air Coalition | |
| Kevin Kilpatrick | HDR | |
| Kevin Snow | Sunset | |
| Kirk Robinson | Western Wildlife | |



WEST DAVIS CORRIDOR

ENVIRONMENTAL IMPACT STATEMENT

Shared Solution Alternative Workshop

December 18, 2014

Workshops

- June 18th – Gather ideas on land use, roadway, and transit
- July 2nd – Refine roadway elements
- July 28th – Refine transit elements
- Sept. 4th – Gather input on land use
- Sept. 25th – Finalize the alternative
- Dec. 18th – Screening Update

Meetings w/ Coalition

- July 8th - discuss roadway elements
 - July 22nd - discuss roadway elements
 - Aug. 5th - discuss roadway and transit elements
 - Aug. 12th - meet with UTA on transit elements
 - Aug. 21st - meet with UTA on Frontrunner
 - Sept. 8th - summarize land use feedback
 - Sept. 11th - finalize map of alternative
-
- Sept. 29th - review feedback from cities and UTA
 - Oct. 8th - discuss modeling assumptions
 - Oct. 14th - meet with WFRC on land use
 - Oct. 22nd - discuss land use & modeling assumptions
 - Oct. 30th - discuss land use & modeling assumptions
 - Nov. 6th - discuss land use & modeling assumptions
 - Nov. 18th - finalize land use & modeling assumptions
 - Nov. 24th - summarize the development process
 - Dec. 9th - meet with WFRC on land use
 - Dec. 11th - finalize settings in model
 - Dec. 15th - review modeling results

| Alternative | Daily Total Delay (hr) | North-South Road Lane-Miles with V/C ≥ 0.9 | East-West Road Lane-Miles with V/C ≥ 0.9 | Vehicle-Miles Traveled (VMT) with V/C ≥ 0.9 | Vehicle-Hours Traveled (VHT) with V/C ≥ 0.9 |
|-------------|------------------------|---|---|--|--|
| No-Action | 10,760 | 43.5 | 26.9 | 245,500 | 9,490 |
| TSM/TDM | 9,890 | 40.2 | 23.1 | 231,300 | 8,550 |
| 01 | 10,640 | 43.9 | 26.2 | 244,200 | 9,440 |
| 02 | 10,080 | 42.1 | 27.1 | 242,800 | 9,200 |
| 04 | 8,810 | 42.8 | 16.6 | 225,900 | 7,520 |
| 05 | 7,660 | 15.0 | 16.6 | 68,500 | 4,400 |
| 06 | 9,880 | 34.9 | 26.6 | 225,100 | 8,370 |
| 07 | 8,690 | 9.3 | 27.2 | 82,000 | 5,540 |
| 08 | 6,830 | 7.8 | 15.4 | 50,300 | 3,320 |
| 09A | 7,240 | 10.3 | 26.6 | 83,000 | 4,490 |
| 09B | 10,450 | 58.4 | 26.0 | 272,900 | 9,830 |
| 09C | 9,070 | 34.4 | 26.6 | 208,800 | 7,760 |
| 10A | 6,950 | 9.7 | 21.0 | 70,600 | 4,050 |
| 10B | 10,120 | 48.9 | 26.3 | 249,900 | 9,180 |
| 10C | 9,160 | 32.7 | 25.5 | 202,100 | 7,580 |
| 11A | 7,530 | 17.2 | 15.9 | 94,400 | 4,770 |
| 11B | 9,630 | 40.6 | 28.6 | 233,400 | 8,690 |
| 11C | 8,970 | 37.4 | 21.9 | 203,100 | 7,680 |
| 12A | 8,280 | 24.7 | 19.3 | 128,500 | 6,120 |
| 12B | 9,640 | 38.6 | 26.3 | 221,800 | 8,430 |
| 12C | 9,610 | 38.4 | 24.6 | 216,300 | 8,300 |
| 13A | 7,830 | 18.5 | 17.1 | 100,400 | 5,130 |
| 13B | 9,480 | 40.7 | 25.3 | 225,000 | 8,440 |
| 13C | 9,300 | 36.6 | 24.1 | 206,900 | 7,910 |

Initial Run Assumptions

- Land Use Changes
 - Held county totals and trip totals
 - Imported 4,800 jobs , exported 3,800 households
 - Increased land use intensity along boulevards and centers
- Transit Incentives and Routes
 - Subsidized \$50 monthly pass
 - Additional BRT and local bus routes – 15 min. peak headways
 - Increased walk/bike access to stations
- Increased bicycle ridership
 - 3% commute trips, 6% all trips
 - separate, protected bikeways

Initial Run Assumptions

- 17-22% capacity increase at innovative intersections
- Truck bypass on SR-193 between I-15 and Freeport
- Six lanes on SR-193 and Antelope between State and Hillfield
- Upgrade west Hill AFB gate at 200 South
- Bluff Road extended to Layton Parkway
- Optimize I-15 through ramp metering
- I-15 overpasses between SR-193, Antelope, and Hillfield

Results of Initial Run

| Description | Daily Total Delay (Hr) | North-South Road Lane-Miles with PM Period V/C >= 0.9 | East-West Road Lane-Miles with PM Period V/C >= 0.9 | Vehicle Miles Traveled (VMT) with PM Period V/C >= 0.9 | Vehicle Hours Traveled (VHT) with PM Period V/C >= 0.9 |
|--------------|------------------------|--|--|---|---|
| NO ACTION | 10,760 | 43.5 | 26.9 | 245,500 | 9,490 |
| MEAN | 8,950 | 31.4 | 23.2 | 177,700 | 7,160 |
| 1st QUARTILE | 8,060 | 17.9 | 20.2 | 97,400 | 5,340 |

| Alt. | Facility Type | Description | | | | | |
|------|------------------|----------------------------------|---------|------|------|--------|-------|
| SS | Shared Solutions | The Shared Solutions alternative | 8,750.0 | 18.4 | 10.5 | 68,800 | 3,760 |

Why are we here today?

- Share Initial Results
- Discuss and hear feedback on assumptions
 - Land Use Changes
 - Transit Elements
 - Trail Concepts
- Input on innovative intersection types and locations
- Next steps in evaluation

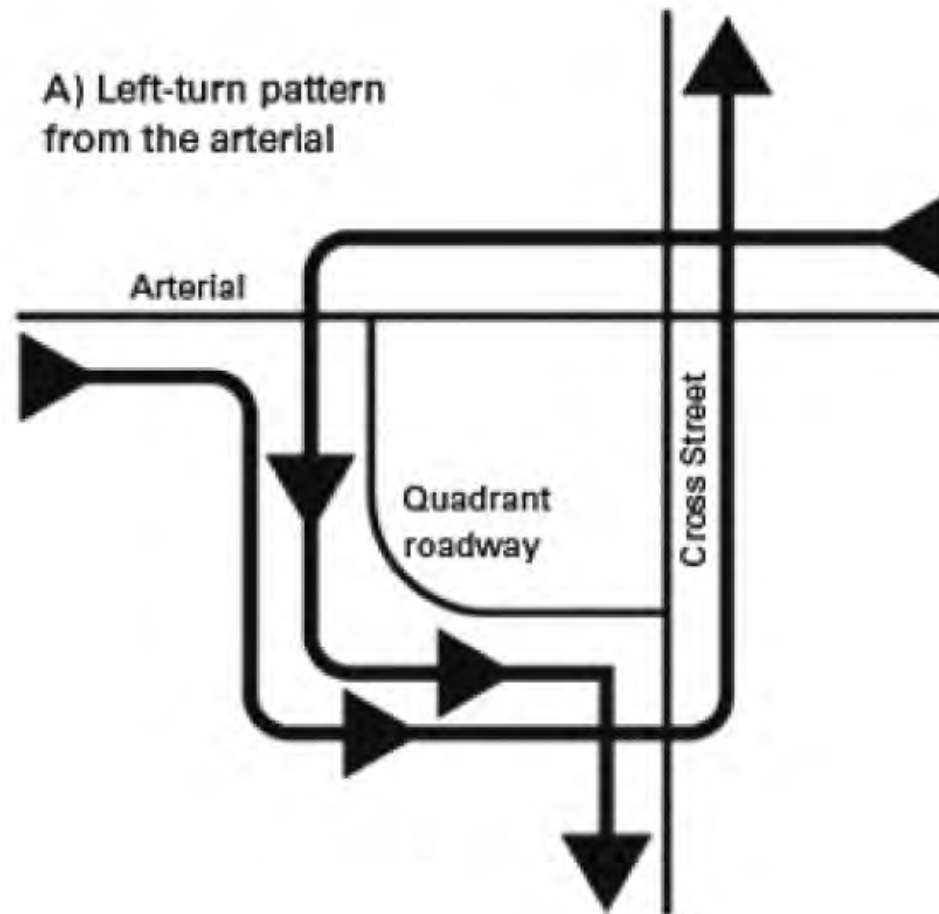
We need your input

- To finalize assumptions on intersections
- To determine impacts and estimate costs

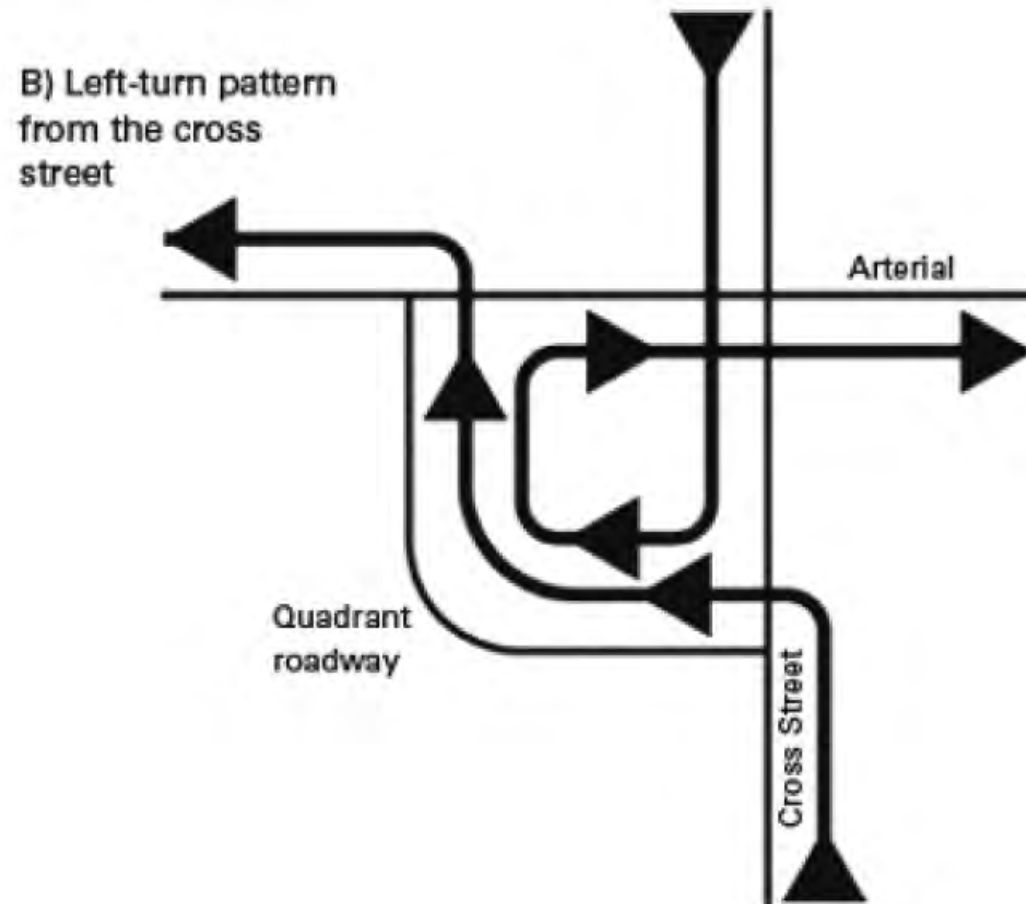
We need you to:

- Determine intersection type
- Plot location of quadrant or U-turn
- Note fatal flaws

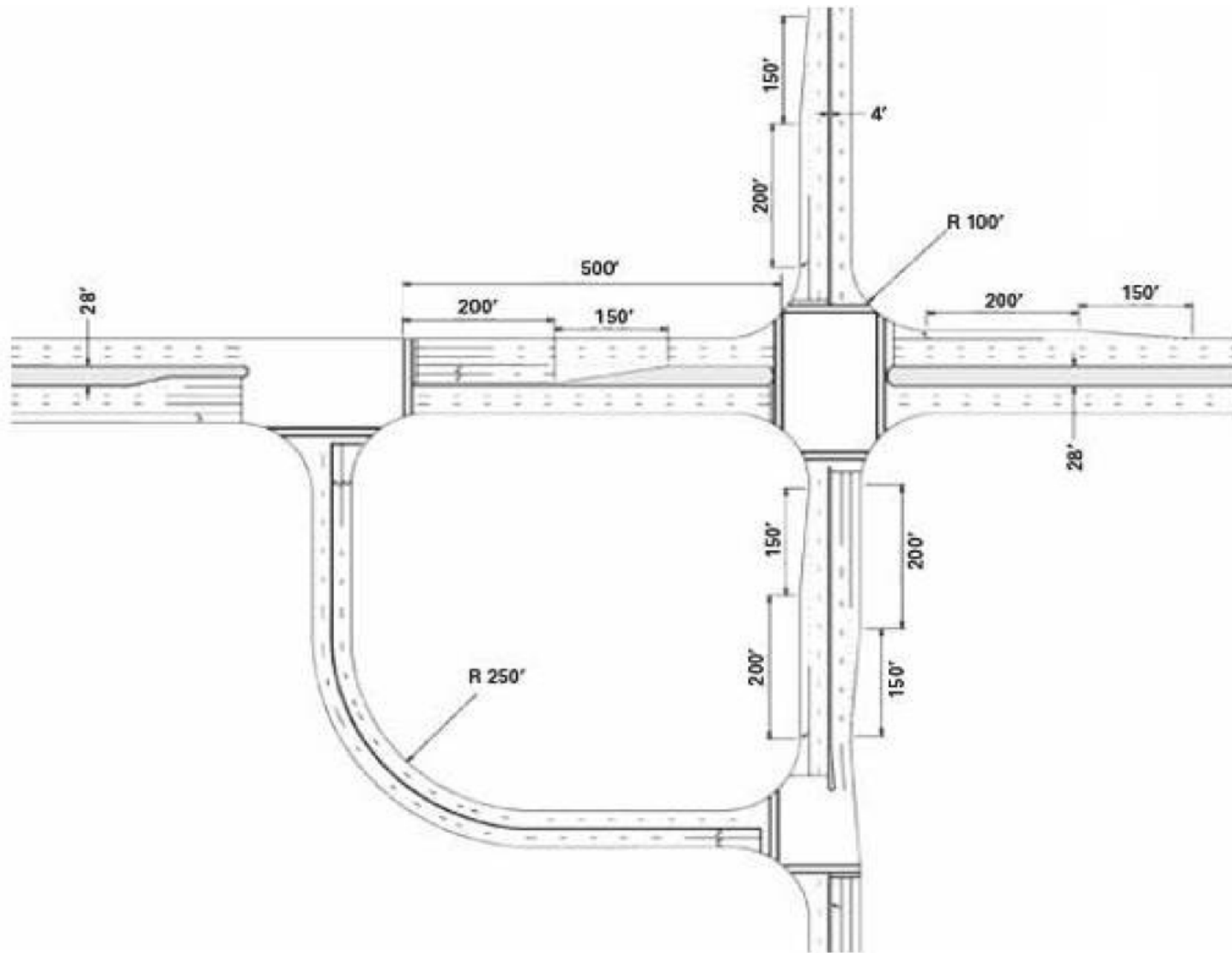
Quadrant Intersection



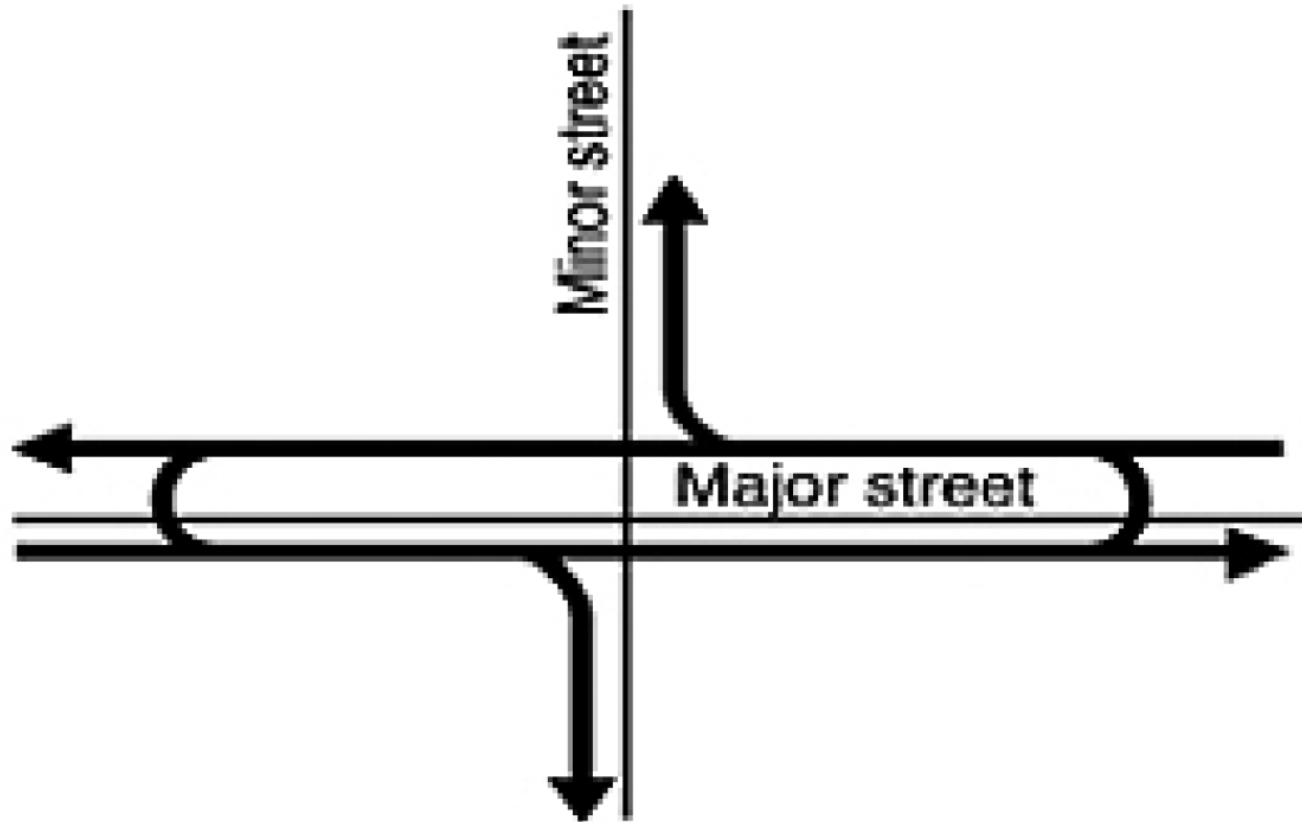
Quadrant Intersection



Quadrant Intersection

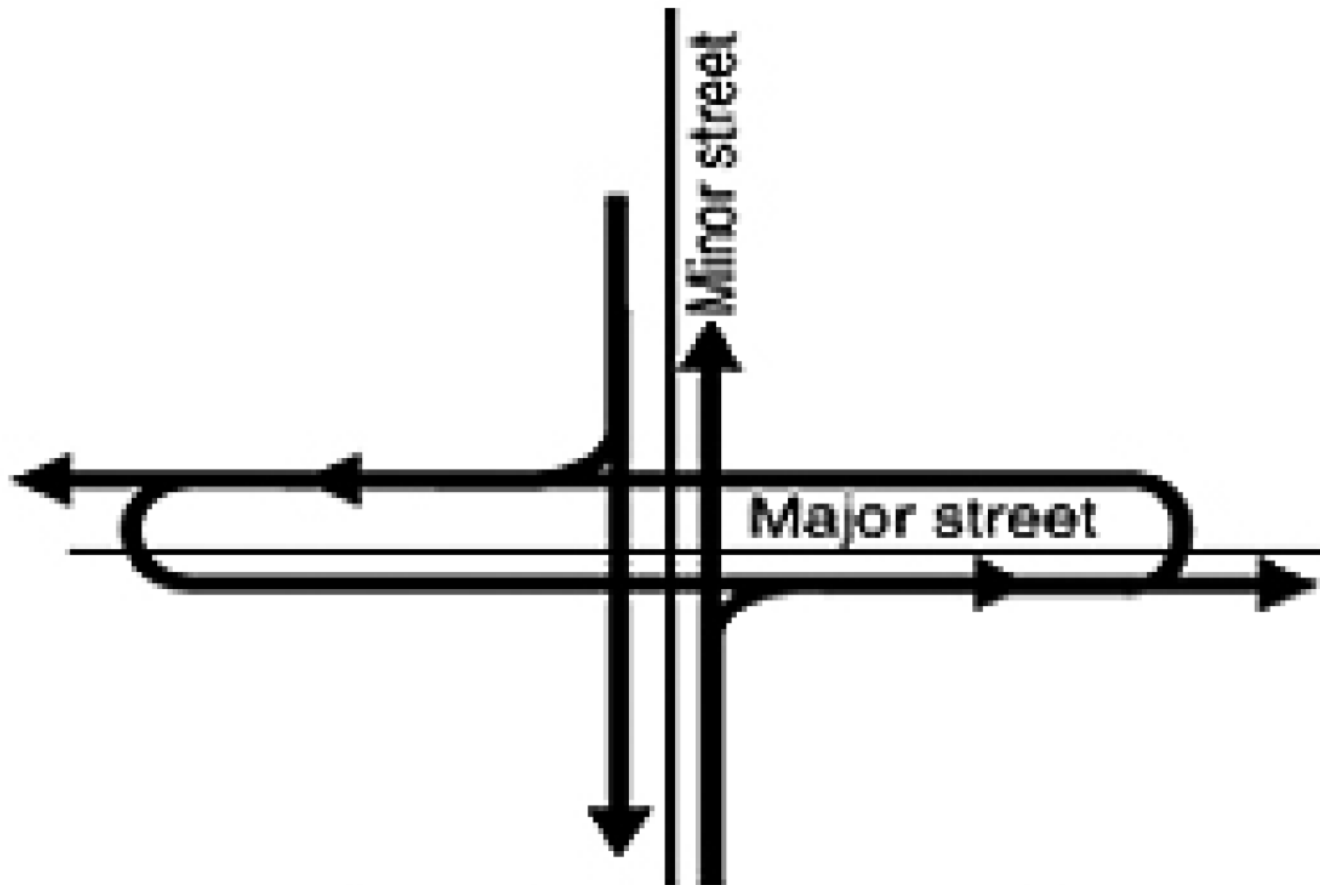


Thru-turn Intersection



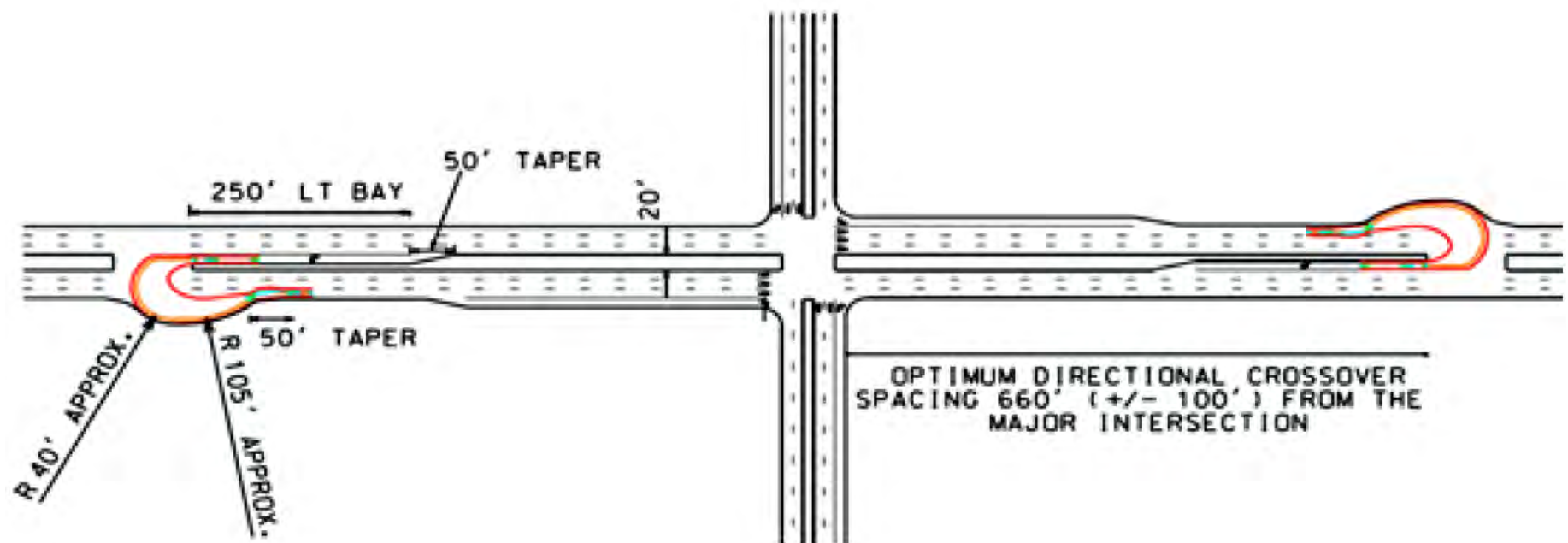
Major street movements

Thru-turn Intersection



Minor street movements

Thru-Turn Intersection



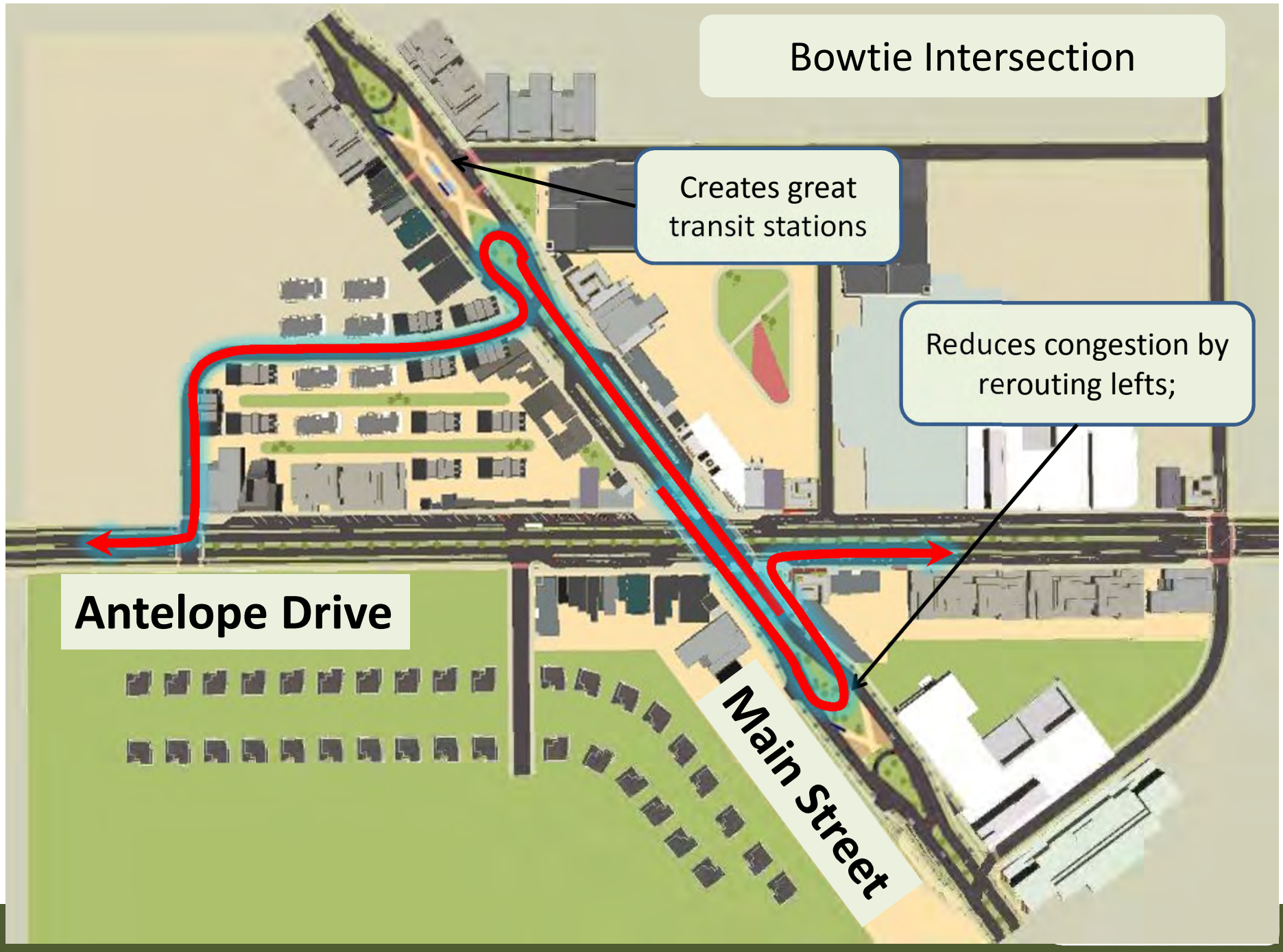
Bowtie Intersection

Creates great
transit stations

Reduces congestion by
rerouting lefts;

Antelope Drive

Main Street



We need your input

- Determine intersection type
- Plot location of quadrant or U-turn
- Note fatal flaws

Next Steps

- Review input on intersections
- Begin preliminary design and measure impacts
- Prepare info. for city approvals of land use
- Prepare info. for UTA approvals of transit
- Finalize assumptions for modeling
- Finalize Level 1 screening
- Perform Level 2 screening
- Next workshop in February
- EIS schedule depends on the above



WEST DAVIS
CORRIDOR

Meeting Notes

West Davis Corridor EIS

UDOT Project No. SP-0067(14)0

Meeting Name: WDC Shared Solution Screening Results Workshop

Meeting Date: Thursday, December 18, 2014

Meeting Time: 2:00 – 5:00 PM

Location: West Point City Hall (3200 West 300 North, West Point City)

Notes:

1. Welcome and Introductions –Dan Adams
2. Purpose of the Meeting – Randy Jefferies
 - Recap of alternative development process
 - Review screening criteria
 - Review screening assumptions
 - Review initial screening results of the Shared Solution alternative
 - i. Initial screening shows alternative passes
 1. Need to verify assumptions
3. Land Use Assumptions & Approval Process
 - Review Land Use Development Process – Ivan Hooper
 - Determine footprint for boulevard/town centers
 - Boulevards – 250 ft. from center of road, each side
 - Town Center – 660 ft. in each direction from center of square
 - Station Communities – looked for vacant available land near Frontrunner stations.
 - Looked at which parcels could be reasonably developed
 - Q & A – City/County Feedback
 - Approval process - What information do the cities need? – Randy Jefferies
 - WDC team and Coalition will prepare info packet for each city.
 - Is this proposed land use, a reasonable and likely outcome of this transportation infrastructure? Would your city support this land use scenario?
 - Comment: Assumptions should be laid out over each city's master plan.
Comment: Assumptions may not get support of community.
 - Show cities what is assumed versus what's there now, and compare assumptions versus general plans.
 - Comment: Would be helpful to know if there are areas within the study area that are doing worse than the overall regional transportation performance.
 - Comment: Break out acreage by development type per city.
 - Use development community to gather feedback on market impacts.
 - Want to make this an easy review process for the cities.



WEST DAVIS
CORRIDOR

Meeting Notes

West Davis Corridor EIS

UDOT Project No. SP-0067(14)0

- Approval can be Mayor's letter, city resolution, etc. City's decision on how that support is given
 - Comment: Recommend there be a city resolution passed by city councils.
- Comment: Concerns over infrastructure development costs.
- Comment: How does this process fit in with existing process of requesting transportation projects?
- Comment: Concerns about community reaction to land use changes
- How does city's support impact WDC team decision making process?
 - Will effect assumptions alternative is based on.
- Comment: The elements of the shared solution will not happen without the highway. While we are waiting, development will continue to occur out west.
- Comment: Economic development may come faster with a highway.
- Comment: Job growth with Shared Solution will most likely be retail, small shops, etc.

4. Break – 10 Minutes

5. Transit Assumptions & Approval Process

- Review Transit Scope and Assumptions – Mike Brown/Randy Jefferies
 - i. UTA discussion on subsidized fares
 - 1. Hive Passes for Davis and Weber County. \$50/month for unlimited transit use
 - 2. Existing UTA passes – Kerry Doane
 - a. Pass partnerships exist with UTA, entity and user.
 - b. Proposal is a steep revenue reduction for UTA.
 - c. Transit ridership with Shared Solution showed 7,000 user increase
 - 3. Model takes into account what impedes or increases ridership.
 - 4. We are relying on UTA to determine if transit concepts are viable.

6. Trails Scope and Assumptions – Roger Borgenicht

- 60% of population want connected and protected bikeways. They are interested in the opportunity to ride, but want it to be safe.
- Need to have separate real estate for bikes the promote safety.
- Costs have not been estimated yet.

7. Next Steps & Schedule – Randy Jefferies

- Review input on intersections
- Begin preliminary design and measure impacts
- Prepare info for city approvals of land use
- Prepare info for UTA approvals of transit
- Finalize assumptions for modeling
- Finalize Level 1 screening
- Perform Level 2 screening
- Next workshop in February